



## Proceedings of the 2007 Annual Meeting

*SEPTEMBER 10-12, 2007*

ATLANTA, GA

### **ABOUT SERA 19**

Access to and quality of health care received has been the leading challenge facing communities across the Southern United States. Increasing chronic disease coupled with mounting fiscal pressure threatens communities' access to care, the economic viability of the health care system, and the health and well-being of individuals, families and communities. In the mid-1980s, a group of individuals from multiple disciplines and states came together to exchange ideas and experiences in response to the growing complexity of health care infrastructure, access and policy issues, and the resulting economic impact. In 1990, this group formally organized as the Southern Extension and Research Activity Information Exchange Group (SERA-IEG) 19, focusing on rural health. This network of research, Extension and health professionals is building collaborative partnerships to improve community health and well-being and welcomes new members.

To learn more about Rural Health SERA 19, go to the Southern Rural Development Center's [Website](#).

## OBJECTIVES

The SERA 19 has four primary goals:

- Exchange new research findings and extension programs related to health care delivery, organization and financing in rural areas;
- Generate regional collaborations among researchers and extension professionals to acquire extramural funds to conduct integrated research;
- Provide a forum for cross-disciplinary exchange of ideas related to rural health care trends and policy impacts; and
- Develop joint projects and activities that might be expected to strengthen Extension's role in protecting the health and safety of the public.

## CURRENT OFFICERS

Chair: **Sandy Wiggins**, *North Carolina State University*

Chair-elect: **James Barnes**, *Louisiana State University*

Secretary: **Marcus M. Comer**, *North Carolina A&T State University*

## INSTITUTIONS

The following universities and government agencies have been active participants in SERA-19:

- Virginia Tech
- Oklahoma State University
- University of Alabama
- University of Arkansas
- Auburn University
- North Carolina State University
- Alcorn State University
- Tuskegee University
- University of Kentucky
- Texas A&M University
- Louisiana State University
- University of South Carolina
- Clemson University
- University of Florida
- Mississippi State University
- University of Missouri-Columbia
- University of Georgia
- Southern Rural Development Center

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# Healthcare Sector Employee Satisfaction Survey Analysis

FACTORS AFFECTING THE EMPLOYMENT SATISFACTION OF HEALTHCARE SECTOR EMPLOYEES IN CLARKE, KEMPER, LAUDERDALE, NESHOPA, AND NEWTON COUNTIES, MISSISSIPPI

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# Healthcare Sector Employee Satisfaction Survey Analysis

**Abstract:** This study delineates the factors that influence workplace satisfaction of healthcare professionals in a rural five county area in east central Mississippi. Seven different aspects of the workplace are studied and conclusions and recommendations regarding firm-level policy changes are presented.

## BACKGROUND

One of the critical factors to the lack of healthcare accessibility in rural areas is the failure to retain quality healthcare professionals by provider firms, particularly in the nursing and allied health fields. As part of its continuing mission to enhance the retention of professional healthcare workers in the East Central Mississippi region, the east Central Mississippi Health Network (EC HealthNet) contracted with the Southern Rural Development Center (SRDC) and the Mississippi State University Extension Service (MSUES) to conduct and analyze a survey of the attitudes and opinions of these types of workers regarding their employment situations.

## ACTION

To accomplish the goals of the program, approximately 3,500 survey instruments mailed to healthcare professionals. Of these 622 usable forms were returned for a response rate of 17.8 percent. The survey instrument was divided into six parts with each section analyzing a different aspect of the respondent's workplace. Questions were posed in each of these categories that sought to comprehensively, but concisely, ascertain the respondent's feelings and perceptions regarding the particular aspect of their workplace life.

## RESULTS

### *Work Environment*

In order to delineate the factors that influenced the participants' satisfaction with their work environment, this section is divided into five subsections. With regard to work expectations, 95 percent of the respondents agreed with the statement "When I come to work, I know what is expected of me." Likewise, over 85 percent of the survey participants agreed that they were given the opportunity to do their best while at work. However, 80 percent of participants agreed that with the statement "Quality is a top priority in my organization."

The second subsection, Workplace Growth Opportunities, dealt with workplace mentoring or coaching programs and the value of employees' suggestions to their employer organizations. While fewer than 40 percent of respondents felt that mentoring/coaching programs were available, well over 70 percent felt that these types of programs were important for their job satisfaction. Furthermore, less than half

of the participants indicated their organization has an employee suggestion program, but 60 percent of respondents felt this type of program is important to their job satisfaction.

Corollaries to these responses can be found in the third subsection dealing with employees' involvement in organizational decision making. Even through a substantial proportion of respondents felt that their input was not necessarily valued by the organization, over 80 percent felt that their performance positively contributed to the organizations' successes and over 70 percent are satisfied with the amount of independent through that they are able to exercise on their jobs.

Likewise, over 60 percent of participants felt that they were actively involved in making their organization a better place to work and supervisors typically asked them for input into decision making processes and policies that affect their positions. However, the majority of respondents either disagreed or was neutral with regard to the concept of being giving the opportunity to be part of task groups and assignments outside their core area of responsibility.

The final subsections are closely related. Less than 70 percent of respondents feel they are satisfied with the quality of supervision that they receive and larger majorities indicated that they not only receive an annual performance review from their supervisors, but that these annual reviews are important to their overall job satisfaction.

While these perceptions undoubtedly have a positive impact on the relief of workplace related stress, the fact remains that healthcare professionals believe themselves to be employed in high stress positions. Seventy-four percent of respondents disagreed with the statement "My job is not at all stressful." The most common causes of job stress are work volume, the nature of the particular job, and co-worker relationships.

#### *Job Satisfaction and Advancement*

While almost 90 percent of the survey respondents felt that they get a feeling of accomplishment from doing their job well, less than 55 percent felt that they are valued by their employer organizations. These responses seem to track closely with the responses for the job advancement related issues. Only 32 percent of survey participants feel that established career ladders exist in their organization and only 57 percent agreed that these types of programs are important to their overall job satisfaction. Likewise, only 35 percent of respondents indicated that their organization has a career development program that helps employees manage their careers.

Responses were only slightly more positive with regard to questions regarding employee incentive programs. While approximately 75 percent of respondents indicated that their organizations offer tuition reimbursement and substantial recognition and rewards programs, only a slight majority indicated that recognition and rewards programs were important to their job satisfaction and a minority (48 percent) agreed that they valued tuition reimbursement programs.

#### *Job Related Training*

Only 52 percent of respondents felt that job training opportunities were available for their position and just over 65 percent felt that adequate training opportunities had been made available for them to

succeed in their positions. Only half of the respondents indicated that their organization provides as much training as is needed for their position. However, 77 percent of the survey participants feel that adequate levels of job related training are important to their overall level of job satisfaction.

### *Compensation and Benefits*

With regard to compensation and benefits packages, responses were predictably mixed. Minorities of respondents feel that their organizations provide competitive salary/compensation benefit packages and important competitive healthcare benefits. However, other components of the packages received more favorable responses. Over 65 percent of respondents feel that their organization offers competitive leave benefits and just over 60 percent indicate that they participate in competitive retirement benefits. All components of the compensation/benefits package are judged to be important to the respondents' overall job satisfaction.

### *Co-Worker Environment*

While a majority of respondents feel that there is a spirit of cooperation between their co-workers, slightly less than half believe that there is an environment of openness and trust within their organizations. However, even with its lack of perceived trust and openness, there seems to be amicable relationships between co-workers. Furthermore, the majority of respondents agreed that they experience a sense of cooperation in their organizations.

### *Workplace Environment*

The workplace environment section primarily dealt with the physical and operational characteristics of their workplace environment. The majority of respondents (although to various extents) feel that they work in modern facilities, that their workplace is clean and safe, and that their physical working conditions are good. A relatively slight majority of respondents (58 percent) believe that they have up-to-date tools and equipment at their disposal.

### *Management Relations and Trust*

The majority of survey respondents agreed that they were proud to work for their organization and that they contribute to their particular organization's plan and mission. Unfortunately, a significantly fewer number of respondents feel that they can trust what they are told by their organizations' management. Slightly over half agreed that they have confidence in management's ability to implement the organization's long-term plan.

## **CONCLUSIONS**

It is obvious from these results that the employees responding to the survey instrument have a very positive attitude toward the work that they are doing. However, there are several factors to the employees' work environment that need to be addressed. These include:

- While co-workers seem to be able to get to know each other while on the job, the level of trust among co-workers, as well as a commitment to quality, needs to be improved.

- Employee mentoring and career planning programs are lacking across the respondents' organizations. Increased focus on these programs, particularly at the non-practitioner and non-registered nurse levels, could improve employee morale. The two lowest rated compensation/benefit package components are salary levels and the quality of healthcare benefits. Healthcare benefits in particular are likely to continue to be a driving force for employee satisfaction in the future.
- Employee perceptions of the workplace environment (including condition and age of the infrastructure and equipment) are relatively low and are likely a major source of employee frustration and job stress. Increased attention to plant and equipment upgrades will be vital to employee retention.
- Job stress plays a vital role in the level of employee satisfaction. The healthcare industry is an inherently stressful industry and respondents to the survey instrument indicate that the three top causes of stress in the workplace are the nature of their jobs, work volume and co-worker relationships.
- Trust in and relationships with management are relatively low compared to other factors in the employees' workplace.

While there are some factors that organizations may not be able to address in the short term, it seems that several of the factors mentioned in the survey deal with communication issues. Meaningful communication can go a long way to relieving stress and building relationships with co-workers, supervisors and administration. It should be realized, however, that meaningful communication does not necessarily mean having more meetings. Things like newsletters (either electronic or hard-copy based), bulletin boards, or organized break time activities to build relationships can help to increase the level of employee satisfaction within their workplace and, as a result, increase the organizational retention rate.





## Healthy Boards

### AN INTRODUCTION TO BOARD GOVERNANCE IN HEALTH CARE ORGANIZATIONS

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**Abstract:** The Healthy Boards (HB) program was created to teach research-based principles to help board members govern resources wisely in health care organizations. Why teach HB principles? The governance of resources within any health care organization is an important part of achieving financial success. Also, resources are limited so decision quality by boards largely affects investment priorities and strategic direction of the organization. The purpose of this paper is to explain the HB program as it has been delivered in health care organizations.

# Healthy Boards: An Introduction to Board Governance in Health Care Organizations

## BACKGROUND

In a perfect world, board members respect and trust each other, listen to concerns and new ideas and then work together as a true team to reach consensus about priorities. And along the way, board members would have established a clear set of performance measures for its organization, and itself. A clearly defined set of board member performance measures would also be established to enable better recruitment and to handle succession of board members.

Obviously, this is the perfect, not real world of board governance. Often times, boards do not have a clearly established set of performance measures for the organizations it governs nor do any performance measures exist for board members individually or collectively. Unfortunately, this leads to conflict that often cannot be resolved in a win-win fashion. This creates mistrust, damages reputations of the parties involved and often stains the organization's reputation itself. As conflict goes unresolved, board members lose trust and respect for each other. What would be helpful?

Board members need to be able to disagree about policies and resolve those conflicts in constructive ways to openly discuss solutions. They also need to follow some best-practice methods for establishing performance measures to "open up" discussions in a more objective environment.

The good news is boards can indeed follow some high performance, healthy principles to better resolve conflict and achieve financial success. These same principles can be applied in any industry, especially health care given its complexity of payment methods and organizational arrangements.

## ACTION

The Healthy Boards (HB) program teaches board members how to work with each other to build trust and strengthen accountability. The program provides several research-based principles to follow to strengthen organizational and social structures within an organization. The Healthy Boards program has been designed to be an intensive three hour session to promote dynamic interchange and shared learning among board members. The case method is used to provide participants with several opportunities to maximize learning through an integrated mix of lecture, small-group discussions, presentations and team-building exercises.

Participants learn the basics of serving as a healthy board member, individually and collectively. Principles for operating as a high performance, healthy board are shared with participants during the first part of the program. Participants are challenged to adopt and implement these principles. The second part of the program provides participants with an opportunity to use these same healthy, high performance principles by examining an existing health care board. Using the case study method, participants work in teams to analyze the case and discuss which principles of high performance are lacking. Each team develops some strategies to strengthen accountability and trust among members in this case study. The final part of the program features the discussion of the case among participant teams.

The HB program focuses on issues of critical concern to board members, including:

- Understanding basic responsibilities and roles;
- Building trust among board members;
- Understanding how to serve as a healthy board member;
- Improving accountability; and
- Understanding the connection between organizational performance and board governance.

## RESULTS

These high performance, healthy board principles were developed by Sonnenfeld (2002). Each set applies to either organizational or social aspects of helping boards perform better. These include:

### *Organizational Structure*

- Board members should make every effort to attend every meeting;
- Board members are adequately involved in the decision making process;
- Board members possess unique skills or experience which add value to the organization;
- Board members do not have personal agendas which create conflicts of interest;
- Board should have an appropriate inside/outside ratio;
- The board has an appropriate, manageable number of members;
- The board understands how to replace people in key leadership positions;
- The board requires each member to sign an agreement which clearly identifies a board member's expected set of behaviors and actions; and

- The board also provides an orientation process to explain the terms of the membership agreement to new board members.

#### *Social Structure*

- Creates a climate of trust, and candor;
- Fosters open dissent, not disloyalty;
- Uses a fluid portfolio of roles;
- Ensures individual accountability;
- Evaluates board performance;
- Links strategic plan to measurable, day-to-day factors;
- Implements a strategic management system to track critical success factors.

#### **CONCLUSIONS**

The fundamental impact of this program has been to build trust and strengthen accountability among board members in health care organizations. Results from a six month post program survey of almost 180 participants since 2004 indicated 91 percent of all participants stated that after taking the program accountability and trust increased among their respective board members. More than 95 percent of participants agreed they would recommend the program to other types of boards.

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## ARTHRITIS EDUCATION PARTNERSHIP REACHING RURAL TENNESSEANS

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**Abstract:** The Tennessee Arthritis Education Partnership has packaged funding from CDC through the Tennessee Department of Health, the arthritis evidence-based programs of the Tennessee Chapter of the Arthritis Foundation (AF) and the statewide educational network of the University of Tennessee to reach rural Tennesseans with arthritis self-management education.

# ARTHRITIS EDUCATION PARTNERSHIP REACHING RURAL TENNESSEANS

## BACKGROUND

Arthritis is the nation's leading cause of disability. One in five adults reported doctor-diagnosed arthritis. As the population ages and becomes overweight, these numbers will continue to increase dramatically. Approximately two-thirds of people with arthritis are younger than sixty-five. Although arthritis affects all ages and racial and ethnic groups, women and older adults suffer more from the disease. Pain, aching, stiffness, and swelling in or around the joints are the common symptoms of this disease.

## ACTION

One out of every three Tennesseans (approximately 36%) has some form of arthritis. To reverse this trend, the Tennessee Arthritis Action Plan recognized the importance of building partnerships to create opportunities to address the burden of arthritis in a variety of settings. In response to this state plan, the Tennessee Arthritis Education Partnership has packaged funding from Centers for Disease Control and Prevention (CDC) through the Tennessee Department of Health's Arthritis Control Program (\$60,000), the arthritis expertise and evidence-based programs of the Tennessee Chapter of the Arthritis Foundation (AF) and the statewide educational delivery network of the University of Tennessee (UT) Extension.

## RESULTS

Since 2003, 60 UT Extension educators have become certified to teach the AF evidence-based programs: Arthritis Self-Help Program (ASHP), Arthritis Foundation Exercise Program and Tai Chi. These programs teach participants arthritis self-management skills. Research has shown that these programs reduce the pain of arthritis by 20% and physician visits by 40%. Certification training, travel expense and educational materials are funded through CDC. Program trainers and teaching materials are provided by AF.

The UT Extension certified instructors collaborate, plan, promote, implement and evaluate each program they offer in their counties. They partner with newspapers, health care providers (physicians, pharmacists, and physical therapists), senior centers, churches, recreation/wellness centers, county health councils, hospitals, worksites and health departments. Program evaluation includes a post-session survey and a three-month follow-up survey developed by a team of UT Extension educators, who have taught the programs. In 2006, 2,383 participants completed the AFSP, 747 participants completed the AFEP, and 3,607 participants completed the Tai Chi Program. Participants reported significant improvements in balance, overall health, ability to cope with arthritis and confidence in self-

management and a decrease in pain and stiffness. Three-month follow-up surveys revealed that all participants continued to practice Tai Chi and maintained their ability to better cope with their arthritis and 88% of participants continued the AF exercise routines.

## CONCLUSIONS

All partners at the state and local levels achieve more because of this partnership's ability to package the resources of each partner. This unique partnership approach has expanded the availability of educational programs and resources in rural areas of Tennessee that previously had no participation and where access to arthritis health information and health care is severely limited. In 2005, CDC recognized the partnership as an *Exemplary Program Model*. In 2006, CDC awarded this partnership the prestigious *Partnership Award*, as a partnership model for other states to replicate. The Arthritis Foundation presented the partnership with the *National Public Health Innovation Award* for outstanding achievement.

## REFERENCES

Centers for Disease Control and Prevention: AT A Glance: Targeting Arthritis – Reducing Disability for Nearly 19 Million Americans 2007.

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<http://fcs.tennessee.edu/healthsafety/tnaep.htm>



## RURAL OUTREACH MAKES A DIFFERENCE

Increasing Cancer Screenings Among Tennessee Appalachian Women

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### **Abstract:**

Part of a national partnership, TEAM UP TN is an evaluation study designed to increase access to screening services by women who are aged 50 through 64, low income, under or uninsured and rarely and never screened by promoting the services of the Tennessee Breast and Cervical Screening Program.



## **RURAL OUTREACH MAKES A DIFFERENCE: INCREASING SCREENINGS AMONG TENNESSEE APPALACHIAN WOMEN**

### **BACKGROUND**

Medical service shortages, rural residence, geographic isolation and socioeconomic and cultural factors pose barriers to breast and cervical cancer screening among women living in the Appalachian region of Tennessee. This rural, mountainous region suffers from high mortality rates due to breast and cervical cancer. The purpose of this evaluation study was to 1) increase access to screening services by women who are aged 50 through 64, low income, under or uninsured and rarely and never screened by promoting the services of the Tennessee Breast and Cervical Screening Program, and 2) utilize a unique partnership approach of packaging national, state and local resources to increase access to breast and cervical cancer education and screening services to rural Appalachian women in eleven pilot counties.

### **ACTION**

TEAM UP TN is a collaboration with the American Cancer Society's Mid-South Division, National Cancer Institute's Mid-South Cancer Information Service, Knoxville Affiliate of the Susan G. Komen for the Cure, the Tennessee Breast and Cervical Screening Program (TBCSP) and the University of Tennessee (UT) Extension, which began in 2003. County partnerships are facilitated by county UT Extension educators. These educators are skilled in outreach interventions and understanding of screening barriers unique to women in their respective counties. The county health departments provide enrollment and screening to eligible women. Women are referred for mammograms and Pap test follow-up if needed. Through these county partnerships, evidence-based strategies were utilized to educate women about the importance of breast and cervical cancer screening and how to access services and to provide the screening services of the TBCSP to eligible women. Breast and cervical screening data was collected through the TBCSP for both the pilot and control counties. A baseline for data collection was established using 2003 screening data from the TBCSP. Screening data of the pilot counties was compared with the screening data of the control counties to provide a clearer, more valid picture of the impact of TEAM UP TN. Educational impact data, along with process data addressing program strategies, was collected through UT Extension's System for University Planning, Evaluation and Reporting (SUPER) by UT Extension educators.

### **RESULTS**

All eleven pilot counties experienced a significant increase in screening services provided by the TBCSP for the target audience as compared to control counties over a three-year period of the partnership

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*Proceedings of the 2007 Rural Health Southern Extension and Research Activities (SERA) 19 Global Learning, Location Action Conference, eds. Barnes, J. and S. Wiggins, September 10-12, 2007, Atlanta, GA.*

program. There was an increase in the number of older women aged 50 through 64 screened. Twenty percent of the women screened met the never or rarely screened definition. Those women who participated in educational programs improved their knowledge and attitudes about cancer screening and intent to change specific breast and cervical cancer screening behaviors.

## **CONCLUSIONS**

Rural outreach makes a difference in increasing breast and cervical cancer screening rates among rural Appalachian women. County partnerships do work in expanding outreach to rural Appalachian women with education and screening services. Combining the outreach capacity of UT Extension with the service delivery of TBCSP, rural Appalachian women are increasing their understanding about the need for screening and are seeking screening services in their communities.

## **REFERENCES**

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TEAM UP TN Web site: <http://teamup.tennessee.edu/>



# Learning from the World, Serving North Carolina and Beyond

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**Abstract:** North Carolina's Center for International Understanding offers cross-cultural training and short-term study programs in a unique brand of international education. The Center's Latino Initiative has been recognized as a model for the nation. A collaboration among Southern Region Extension leaders and the North Carolina Center for International Understanding is proposed.

# Learning from the World, Serving North Carolina and Beyond

## BACKGROUND

The south has the fastest growing Latino population of any region with North Carolina having experienced the fastest growing Latino population of any state in the region. North Carolina saw a 569 percent increase in its Latino/Hispanic student enrollment from 1995-2005, and Latinos/Hispanics comprise 16 percent of total births in 2005 in that state. Over 50 percent of net population growth in southern states is attributed to the increase of the Latino/Hispanic population. The Southeast reported the most dramatic increases in Hispanic populations in the 2000 US Census, showing that North Carolina, South Carolina, Tennessee, Georgia, Virginia and Arkansas are new Hispanic Magnet states. The Latino Initiative provides leaders with resources and information to create practical solutions for successfully incorporating immigrants into their communities. Since 1979 North Carolina's Center for International Understanding (NCCIU) has taken more than 7,800 North Carolinians to 47 different countries. To assist North Carolina educators, policy leaders, health providers, law enforcement, business leaders and others in facing the explosive growth of the Latino community in North Carolina, the Center developed its Latino Initiative. The Center for International Understanding's Latino Initiative provides state and local leaders with a fresh approach to immigration integration.

## ACTION

Between 1998 and 2007 more than 350 North Carolina policy and civic leaders participated in the Center for International Understanding's Latino Initiative. The Center's year-long class-room and experiential training program, including travel to Mexico, provides participants with resources and information to create practical solutions for successfully incorporating immigrants into their communities. In 2006, twenty-five NC Cooperative Extension educators participated in the Center's Latino Initiative, developing and implementing an action plan for increasing Extension's capacity to serve the Latino population upon completion of the training.

## RESULTS

As a result of this program, North Carolina Cooperative Extension has made progress toward achieving the goal of expanding the capacity for developing and implementing community-based educational programs for the growing population of Latino families in North Carolina. Milestone accomplishments include grant funding of a model community-based program and assignment of a staff member to serve as Latino Affairs Facilitator.

A collaboration involving the NC CIU Latino Initiative, NC Cooperative Extension and other Southern Region Extension professionals is proposed to extend the NC CIU Latino Initiative model to other southern region states. The goals of the collaboration are:

- To develop a multi-disciplinary network of leaders interested in investigating the challenges of incorporating immigrants into strong communities;
- To gain a deeper understanding of the cultural, political, social and economic issues impacting the decisions of Mexicans to come to the southern region of the United States & the families they leave behind;
- To have a better understanding about what cultural, governmental, and local resources are available in the southern region in order make appropriate community-based decisions for the benefit of all residents.

## CONCLUSIONS

Creative leadership will be required to expand Extension's capacity to serve the Latino community. The North Carolina Center for International Understanding's Latino Initiative has promise for developing that creative leadership capacity in the southern region.

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# Transforming Global Learning into Local Action

## THE NORTH CAROLINA EXPERIENCE

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## Transforming Global Learning into Local Action: The North Carolina Experience

**Abstract:** Following an intensive one-year international training program, North Carolina Cooperative Extension (NCCE) has made progress toward the goal of serving Latino families in North Carolina. Team members secured grant funding for a model program. A Latino Affairs Facilitator was assigned. Priority issues for developing and expanding Latino programs have been identified.

### BACKGROUND

North Carolina Cooperative Extension has made progress toward achieving the goal of expanding the capacity for developing and implementing community-based educational programs for the growing population of Latino families in North Carolina. An action plan was developed in 2006 by the NC Cooperative Extension (NCCE) Latino Initiative Outreach Team. Milestones achieved during the first year following an intensive one-year international training program completed by members of this team include grant funding of a model community-based program and assignment of a staff member to serve as Latino Affairs Facilitator.

### ACTION

The project *Working with Latino Families to Develop a Rural Safety and Health Education Program: Building Capacity Collaboratively* developed and implemented *El Dia de los Ninos: A Celebration of Health and Safety*, a community-based rural health and safety event for Latino families in western North Carolina. Based on the lessons learned from this pilot program, the project team held a state-wide, in-service workshop for 80 Extension educators and community partners interested in developing Latino programs. The workshop shared resources and strategies for effective and engaging ways to deliver programs to Latino families in the areas of agriculture and natural resources, environment, youth and families and community development.

### RESULTS

Outcomes of this workshop included the development of priority issues for which programs should be developed for the Latino community and for expanding Extension's capacity for serving the Latino community in North Carolina. The 7 priority issues include: 1) navigating U.S. legal and social systems, 2) expanding Spanish-language EFNEP (Expanded Food and Nutrition Education Program), 3) cultural competency training for Extension professionals, 4) regular periodic ESL/SSL (English as a Second Language/Spanish as a Second Language) training, 5) leadership development through Community Voices for the Latino Community, 6) health and safety at work and in the community, and 7) parent and family issues.

## CONCLUSIONS

The development of effective Extension programs for the Latino community involves partnership with Latino community members. Challenges for Extension in serving this population include languages skills and cultural competency for existing staff development and hiring of bi-lingual, bi-cultural staff. There is potential that, with cultural sensitivity, some of these challenges can be addressed side-by-side with the community, such as combined ESL and SSL classes. Creative leadership will be required to expand Extension's capacity in this area to address the priority issues of this community.

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# Documenting the Economic Impact of Telemedicine Service in a Rural Hospital

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# Documenting the Economic Impact of Telemedicine Service in a Rural Hospital

**Abstract:** A seldom recognized contribution of teleradiology and telepsychiatry service in a rural hospital is the community-level benefit it can have to the local economy. Such benefits can include reduced hospital budgets, avoided travel and increased pharmacy use. This study provides a methodology for estimating the economic impact of these telemedicine services.

## BACKGROUND

The combination of information technology and health care (commonly referred to as “telemedicine”) has the potential to greatly impact the lives of rural residents. From a quality-of-life perspective, telemedicine allows rural individuals be “observed” by specialists in various parts of the county, and increases the spectrum of health care services available to them. In fact, the presence of telemedicine has been shown to increase the perception of health care quality in rural communities. However, the benefits of such a center to rural individuals and communities include much more than simply improved health services. The local economy is also enhanced via the addition of telemedicine capability.

## ACTION

This paper provides a methodology for estimating the economic impact of teleradiology and telepsychiatry in a rural community. This impact is broken into four distinct categories. Three categories deal with opportunity costs, or savings that are recognized due to telemedicine, while one deals with an increase in economic activity in the area. The four categories are:

- 1) Reduced personnel costs for hospitals since work is outsourced and full-time specialists are not directly employed;
- 2) Transportation savings to patients who would otherwise need to commute to an urban location;
- 3) Missed work income savings to patients who would otherwise need to commute to an urban location;
- 4) An increase in the use of local auxiliary medical services (i.e. laboratories or pharmacies) because patients do not travel to other communities for their initial consultation.

The primary source of data for this study comes from the 22 hospitals or clinics that participate in Oklahoma State University’s Telemedicine Network. Methodologies associated with each of the four categories were applied to five rural communities with hospitals of varying size. The hospitals also differed in the types of telemedicine services they offered and the number of encounters performed.

The values of the four categories of impacts will vary based on the community where telemedicine is employed. Local factors that affect the economic impact include the number of telemedicine encounters that the community participates in, the number of full-time equivalent radiologists / psychiatrists that the hospital would otherwise employ, the distance to the nearest substitute location, and the average wage rate.

## RESULTS

In general, each community in the study recognizes an annual economic impact of at least \$300,000 generated by the use of telemedicine. For communities with bigger hospitals, the annual economic impact can be quite large, ranging from \$2.5-\$3.1 million. The primary components of these impacts can fluctuate dramatically between communities based on any number of factors, including the distance to nearest substitute location (typically quite large for psychiatric work) and the number of telemedicine encounters performed.

## CONCLUSIONS

While this report focuses on a number of savings and benefits to the community associated with telemedicine, it also recognizes that other issues may play into the decision on whether or not to implement telemedicine in a rural hospital. This can include costs of telemedicine equipment, reimbursement issues, and physician / patient acceptance. Using this report in conjunction with other sources of information should provide a basis for understand the overarching impacts of setting up a telemedicine system.

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